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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,692	06/18/2001	Gene R. Jackson	P4136-DIV	6542

7590

07/08/2003

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EXAMINER

PARSA, JAFAR F

ART UNIT

PAPER NUMBER

1621

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/887,692

Applicant(s)
Jackson et al

Examiner
J. Parsa

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1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 24, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 4, and 11-16 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 4, and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 24, 2003 has been entered.
2. The amendment filed on April 24, 2003 has been entered. Claims 3,4 and 11-16 are pending.

Claim Rejections - 35 USC § 112

3. Claims 11 and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "1 nm to about 100 nm" in claim 11, line 5, and claim 16, line 5 is considered a new matter. On page 3, line 20 of the specification, applicants disclose that the selected metal is nanosized to a mean particle diameter of less than about 100 nm. The phrase less than about 100 nm differs from 1 nm to about 100 nm in order of two magnitude.

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Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 11-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,248,796 in view of Pirzada et al (USPN 5,851,507).

Applicants' claimed invention is directed to a method for producing mixed alcohols including the following steps:

using a sulfided, nanosized transitional metal catalyst selected from Group VI metals;

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nanosizing the Group VI transitional metal catalyst by selecting Group VI metals, and mixture thereof, and then nanosizing said Group VI metals and mixtures thereof to a mean particle diameter in the range of about 1 nm to about 100 nm; suspending the Group VI transitional metal catalyst in a liquid to form a slurry; and contacting said slurry with gases including carbon monoxide and hydrogen at a temperature in the range of about 250 to about 325 °C and a pressure in the range of about 500 psig to about 3000 psig, to thereby produce mixed alcohols.

US patent No. 6,248,796 is directed to the same process disclosed in the copending application No. 09/887,692 with the exception of that US patent No. 6,248,796 is silent about a mean particle diameter in the range of from 1 nm to about 100 nm. However, Pirzada teaches a process for producing nanosized powder such as Tungsten oxide and molybdenum oxide to obtain a mean particle diameter of about 16.1 nm (see Example 4 and 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a nanosized Group VI transitional metal having an optimum particle size diameter, in order to increase the catalytic activity of the nanosized Group VI transitional metal catalysts by increasing the surface area of the nanosized Group VI transitional metal catalysts.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. Claims 3, 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boakye et al (American Chemical Society, Div. Fuel Chem. (1992), 37 (1), 298-305) in view of Pirzada et al (USPN 5,851,507).

Applicants' claimed invention is directed to nanosized Group VI transitional metal catalysts for use in producing mixed alcohols from gases including carbon monoxide and hydrogen, wherein said nanosized Group VI transitional metal catalyst are produced by selecting Group VI metals, and mixtures thereof, and then nanosizing said Group VI metals, and mixtures thereof to a mean particle diameter in the range of about 1 nm to about 100 nm.

Boakye discloses a nanosized molybdenum sulfide catalyst using microemulsion systems (see page 299, 3rd paragraph).

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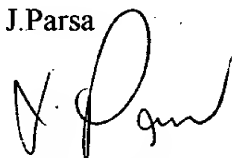
Boakye does not disclose the mean particle diameter of the nanosized Group VI transitional metal catalysts. However, Pirzada teaches a process for producing nanosized powder such as Tungsten oxide and molybdenum oxide to obtain a mean particle diameter of about 16.1 nm (see Example 4 and 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a nanosized Group VI transitional metal having an optimum particle size diameter, in order to increase the catalytic activity of the nanosized Group VI transitional metal catalysts by increasing the surface area of the nanosized Group VI transitional metal catalysts.

Any inquiry concerning this communication from the examiner should be directed to J. Parsa, whose telephone number is (703)308-4615. The Examiner's normal work hours are Monday-Friday from 8:00 a.m. to 4:30 p.m. If Examiner is not in, please leave a message. Your call will be return as soon as possible. Any general inquiry of a general relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is (703)308-1235. The Examiner's supervisor, Johann Richter, may be reached at (703)308-4532. Communications may now be transmitted via FAX directly to group 1600. The group 1600 FAX machine number is (703)308-4556.

J. PARSA

PRIMARY EXAMINER

J. Parsa



July 3, 20003